PROGNOSTIC SIGNIFICANCE AND DIAGNOSTIC VALUE OF PTEN AND p53 EXPRESSION IN ENDOMETRIAL CARCINOMA

Abstract

Introduction

Endometrial cancer has become the most common invasive gynecological neoplasm in the developed countries. The incidence is lower in developing countries due to less use of hormone replacement therapy. It occurs more commonly in postmenopausal women who present with vaginal bleeding as their chief complaint. The neoplasm is categorized into two histological types, the endometriod and the non endometriod types. They vary in terms of their source of origin and prognosis. Besides surgery, many targeted therapies have been introduced for treatment rendering better prognosis.

Aims and Objectives:

To study the clinicopathological profile of endometrial cancers, including age, clinical presentation, menopausal status, stage of presentation and to categorize them into different types based on histological type and grade.

To observe the immunohistochemical expression of PTEN and p53 in endometrial carcinomas and to compare the expression with clinical stage and other histopathological parameters.

Methods and materials

36 hysterectomy cases of endometrial carcinomas reported during the period from 2013 to 2016 in the department of Pathology of our institution were considered in this study. Immunohistochemistry staining for PTEN and p53 were performed and the results were determined.

Results

The mean age of the patients was 55.5 years. 30 out of 36 patients were post menopausal and presented with postmenopausal bleeding. All the patients in our study were type 1 endometrial carcinoma.19 patients had grade I tumours and 16 patients had grade 2 tumours. As per FIGO staging, 28 patients were stage IA, 4 patients were stage IB and 4 patients were stage 2. 19 patients had histological grade 1 tumours and 16 patients had histological grade 2 tumours. PTEN status was predominantly negative (n=25) or heterogeneous (n=9) in these tumours. PTEN status was positive in only 2 patients with grade 2 tumours. p53 immunostaining revealed that majority of patients had low p53 score. p53 staining showed similar distribution in stage IA and IB tumours.

Conclusion

The inactivation of PTEN in higher grades and stages of endometrial carcinomas helps to understand the theranostics of endometrial carcinomas and predicting the response to targeted therapies against carcinogenic pathways.

Keywords: PTEN, p53, endometrioid endometrial carcinoma